Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Advanced Television Systems	)	
and Their Impact upon the	)	MM Docket No. 87-268
Existing Television Broadcast	)	
Service	)	

To: The Commission

COMMENTS ON EX PARTE COMMUNICATIONS REGARDING THE DTV TABLE OF ALLOTMENTS AND FURTHER SUPPLEMENT TO PETITION FOR RECONSIDERATION

Maranatha Broadcasting Company, Inc. ("MBC"), licensee of independent UHF television station WFMZ-TV, Channel 69, Allentown, Pennsylvania, through counsel and pursuant to the FCC's *Public Notice*, "FCC Seeks Comment on Filings Addressing Digital TV Allotments," released December 2, 1997, hereby responds to two *ex parte* submissions concerning the *Sixth Report and Order* ("*Sixth Report*") in the above-captioned proceeding, FCC 97-115, released April 21, 1997. Those submissions were filed by the Association for Maximum Service Television, Inc. ("MSTV"), and other broadcasters, on November 20, 1997, and by the Association of Local Television Stations, Inc. ("ALTV"), on November 25, 1997. MSTV seeks significant changes in the Table of DTV Channel Allotments adopted in the *Sixth Report and Order*, while ALTV supports, among other matters, technical measures that would permit substantial power increases for some stations under circumstances that would not result in additional visible interference. MBC, for its part, has previously filed a timely Petition for Reconsideration of the *Sixth Report and Order* (on June 13, 1996), which was supplemented on August 22, 1997, pursuant to the staff's invitation (*Order*, DA

97-1377, released July 2, 1997). In its Petition and Supplement, MBC sought correction of a severe co-channel short-spacing (nearly 26 percent) between the Channel 46 DTV allotment assigned for WFMZ-TV at Allentown, Pennsylvania, and the Channel 46 DTV allotment for WWAC-TV at Atlantic City, New Jersey. The MSTV submission proposes an alternative DTV channel assignment for WFMZ-TV that is not so short-spaced but, on examination, fails to come to grips with a simple problem that has flawed every proposed DTV channel allotment for WFMZ-TV. Moreover, the MSTV submission, posed as a "solution" to a newly-discovered susceptibility of DTV signals to adjacent channel interference, unfairly and discriminatorily places the financial and other burdens of the "solution" on WFMZ-TV and other small television stations. This submission by MBC, therefore, not only responds to the MSTV and ALTV submissions but also supplements MBC's own Petition for Reconsideration.

THE DATABASE ERROR UNDERLYING THE FLAWED WFMZ-TV ALLOTMENT IN THE SIXTH REPORT AND ORDER

After the release of the FCC's *Sixth Further Notice of Proposed Rulemaking* in this proceeding (FCC 96-207, released August 14, 1996, MSTV and other broadcasters, including MBC, embarked on a joint effort to improve upon the FCC's proposed Table of DTV Allotments. This effort ostensibly included an undertaking to identify and correct errors in the database used by the FCC to compare proposed DTV allotments to existing service areas for the purpose of maximizing the extent to which DTV service areas would replicate existing NTSC service. In this regard, WFMZ-TV's General Manager, Barry Fisher, wrote to MSTV on October 23, 1996, to point out that the directional antenna pattern used by MSTV's engineers for WFMZ-TV (and derived from the

FCC's database) departed from the station's FCC authorization by orienting the major lobe of the pattern at 0° North rather than 160°, as called for by the authorization, in the direction of the major population center in WFMZ-TV's market, Philadelphia. While MBC's November 22, 1996, comments concerning the *Sixth Further Notice* did not support many of the particulars of the proposals contained in the comments of MSTV and other members of the Broadcasters' Caucus, MBC did assume that the Broadcasters' Caucus submissions would lead to a correction of the error in the FCC's database concerning the orientation of the WFMZ-TV antenna.

Recently, in preparing an application for a construction permit to build DTV facilities on Channel 46, MBC's consulting engineer determined that the FCC's database *still* erroneously reflects orientation of the WFMZ-TV antenna at 0° -- away from the major population center in its market *and* in the opposite direction from the short-spaced WWAC-TV DTV allotment. *See* the attached Engineering Exhibit prepared by MBC's consulting engineer, Larry H. Will, pp. 2-5 and Figure 2. The egregious short-spacing of the WFMZ-TV and WWAC-TV DTV allotments in the *Sixth Report and Order* is almost certainly attributable to this error in the FCC's database.

One of the most important principles in the FCC's DTV channel assignment methodology is replication of existing NTSC service areas:

> This approach will ensure that broadcasters have the ability to reach the audiences that they now serve and that viewers have access to the stations that they can now receive over-the-air. . . . [W]e believe that it is important to adopt an approach that provides for a high degree of service replication by all stations, while at the same time ensuring that all stations are able to provide DTV service competitively within their respective markets.

Sixth Report and Order, ¶¶ 29-30. However, unless the error in the FCC's database is corrected, no DTV allotment for WFMZ-TV will even grossly approximate the station's existing service. As

shown in Mr. Will's Engineering Exhibit, p. 4, computation of a theoretical Grade B contour for WFMZ-TV based on the erroneous information in the FCC's database results in a loss of *more than 2,000,000 persons* -- fully 57 percent of the population within WFMZ-TV's Grade B contour derived using the correct antenna orientation.[1]

THE BURDEN OF WHOLESALE RESHUFFLING OF THE TABLE OF DTV ALLOTMENTS ON WFMZ-TV AND OTHER SMALL STATIONS

The MSTV submission proposes changes in nearly a quarter of the *Sixth Report and Order*'s DTV allotments, ostensibly for the purpose of reducing the likely incidence of adjacent channel interference. The benefit of these changes, however, is not apparent in every instance and, in some cases, including that of WFMZ-TV, the proposed change would bring with it significant and discriminatory burdens. The MSTV submission proposes to change the WFMZ-TV DTV allotment to Channel 62.[2] This allotment, which is outside the core spectrum for DTV in the post-transition stage, poses serious financial and other burdens for MBC. Because WFMZ-TV currently operates on Channel 69, a Channel 62 DTV allotment will necessarily require a second relocation for WFMZ-TV to yet another undetermined DTV channel at the end of the transition period, as it will not have the option to continue to operate on either its NTSC or its DTV channel. As Mr. Will states in his

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[1] Examination of population data in MSTV's proposed revisions to the Table of Allotments attached as an Appendix to the November 20, 1997, *ex parte* submission shows that MSTV continues to rely on erroneous information concerning the orientation of the WFMZ-TV antenna. Thus, MSTV's new proposal comes no closer to replicating WFMZ-TV's existing service area than the Channel 46 allotment made in the *Sixth Report and Order*.

[2] Although presumably not subject to the short-spacing of the FCC's Channel 46 allotment, MSTV's proposed Channel 62 allotment cannot be fully evaluated because, as noted above, it appears to be based on the same erroneous data regarding WFMZ-TV's directional antenna as the Channel 46 allotment.

Engineering Exhibit, p. 7, "[a]t this time, the viability of such a future is unclear and could even be detrimental to WFMZ-TV." Also under the new MSTV plan, in the Philadelphia market, independent station WGTI, operating on Channel 61, Wilmington, Delaware, would suffer a similar fate, with its DTV allotment shifted to Channel 68.

As an independent television station, WFMZ-TV is among the stations least well-positioned to bear the costs of a second channel relocation. At the same time, MSTV would move the DTV allotments of two powerful Philadelphia network owned-and-operated stations -- which are far better able to bear the costs of a future relocation -- from outside the core spectrum into the core spectrum. Further, as Mr. Will points out, Engineering Exhibit, p. 8, at least so far as the Philadelphia market is concerned, the MSTV changes appear to simply substitute DTV-NTSC adjacent channel interference for DTV-DTV interference, accomplishing little if any reduction in interference, *per se*, and do not free up any additional spectrum for land mobile in the Philadelphia market. This shifting of burdens to those least able to bear them, without clear countervailing benefits, calls into question whether MSTV's proposed "improvements" in the Table are "neutral," as MSTV claims, *Ex Parte Submission*, p. 7, or only opaque. Indeed, Mr. Will suggests, Engineering Exhibit, p. 8, that improvement of the out-of-band performance of DTV transmitters would do much to relieve the potential for adjacent channel interference, without a wholesale reshuffling of the Table of DTV Allotments.

The FCC, therefore, should consider whether it can remedy the serious allocation errors in the *Sixth Report and Order* -- such as that involving WFMZ-TV -- with a few well-aimed rifle shots rather than a blunderbuss that may well cause as many new problems as it purports to correct.

THE PREMATURE PROPOSAL TO PERMIT HIGHER POWER LEVELS WITHOUT ADEQUATE INDUSTRY STUDY

ALTV proposes, without any real technical specifications, to allow all DTV stations to operate with up to 1,000 kilowatts, effective radiated power, so long as no additional interference is caused, principally through reliance on high vertical downward beam tilt. Mr. Will's Engineering Statement, pp. 9-10, notes that the proposal, while possibly viable at some point in the future, goes beyond what is achievable with current technology and poses some potentially serious problems that require detailed industry study. Adoption of this proposal at this time, therefore, would be premature.

CONCLUSION

The Table of DTV Allotments adopted in the *Sixth Report and Order* is far from a perfect creation. The FCC's obligation, in acting on the numerous petitions for reconsideration, is to (1) correct the database errors, such as that involving WFMZ-TV, that undoubtedly underly some of those problems, so that the resulting allotments fairly replicate existing NTSC service areas, and (2) deal discretely with individual cases where adjacent channel interference would undercut the replication objective. As illustrated by the flaws in the MSTV proposal, a wholesale reshuffling of the table would no doubt reflect the law of unintended consequences. No "solutions" should be

adopted that force more stations -- and particularly WFMZ-TV and other independent stations -- to make a second relocation to the core spectrum at the end of the transition period.

Respectfully submitted,

MARANATHA BROADCASTING
COMPANY, INC.

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Its Attorney

December 17, 1997

MARANATHA BROADCASTING COMPANY, INCORPORATED

LICENSEE OF

WFMZ-TV

CHANNEL 69

ALLENTOWN, PENNSYLVANIA

ENGINEERING EXHIBIT

IN SUPPORT OF

COMMENTS TO FILINGS ADDRESSING DIGITAL TV ALLOTMENTS

(MM Docket No. 87-268)

FCC DOCKET 87-268

Larry H. Will, P.E.
1055 Powderhorn Drive
Glen Mills, PA 19342

MARANATHA BROADCASTING COMPANY, INCORPORATED

LICENSEE OF

WFMZ-TV

CHANNEL 69

ALLENTOWN, PENNSYLVANIA

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MARANATHA BROADCASTING COMPANY, INCORPORATED

DECLARATION OF LARRY H. WILL

Larry H. Will declares and says:

That he prepared the attached engineering exhibit on behalf of MARANATHA BROADCASTING COMPANY, INCORPORATED, Licensee of WFMZ-TV, a Commercial NTSC TV station at Allentown, Pennsylvania.

That he has been involved in radio and television broadcast engineering for over 30 years, and that he has previously submitted engineering applications to the Federal Communications Commission.

That he holds a Bachelor of Science Degree in Electrical Engineering from Drexel University, 1966.

That he is a Registered Professional Engineer in the State of New Jersey.

That he is a member in good standing of the Institute of Electrical and Electronic Engineers, the Association of Federal Communications Consulting Engineers, and the Society of Broadcast Engineers.

That all statements contained within this exhibit are true and accurate to the best of his knowledge and belief, and as to such statements made of belief, they are believed to be true, except for information for which the Federal Communications Commission takes official notice.

Larry H. Will, P.E.
1055 Powderhorn Drive
Glen Mills, PA 19342
(610) 399-1826

Date: December 11, 1997

MARANATHA BROADCASTING COMPANY, INCORPORATED

LICENSEE OF

WFMZ-TV

CHANNEL 69

ALLENTOWN, PENNSYLVANIA

ENGINEERING EXHIBIT EE-1

1. BACKGROUND

Maranatha Broadcasting Company, Incorporated (MBC) is currently licensed to operate WFMZ-TV on Channel 69 in Allentown, PA (BLCT-931029KZ) and has a pending application (BMPCT-960515KE) for an increase in Effective Radiated Power. The undersigned has been retained to prepare this Engineering Exhibit both in support of WFMZ-TV's Petition for Reconsideration in FCC MM Docket 87-268 with respect to the FCC proposed allotment of DTV Channel 46 to WFMZ-TV and to a FCC Public Notice dated December 2, 1997 with regard to ex parte filings by MSTV, Incorporated (MSTV), and the Association of Local Television Stations, Incorporated (ALTV) concerning the Table of DTV Allotments and UHF DTV transmitting power adopted in the Sixth Report and Order in MM Docket No. 87-268. The MBC Petition for Reconsideration was filed with the FCC on June 13, 1997.

Since filing the Petition, the Licensee, in preparation for filing for a Construction Permit for DTV Channel 46 in Allentown, Pennsylvania has become aware of a significant error in the Commission's databases for WFMZ-TV and for the proposed Channel 46-DTV for Allentown,

Pennsylvania. This error may have contributed to the allotment of DTV Channel 46 to Atlantic City, New Jersey at considerable short-spacing to DTV Channel 46 in Allentown.[1]

2. DISCUSSION

In the 6th Report and Order, the Commission revised the WFMZ-TV DTV allotment to Channel 46 with a DTV RMS Effective Radiated Power of 50 kilowatts at a reference HAAT of 313 meters. In addition, with the 6th Report and Order, the Commission also allotted DTV Channel 46 to WWAC-TV, NTSC Channel 53, in Atlantic City, New Jersey. This Exhibit will discuss both the FCC allotment as well as the proposed changes suggested by MSTV as they both relate to WFMZ-DT. We will also briefly discuss the ALTV proposal.

3. THE WFMZ-TV SITUATION

The FCC DTV directional antenna database (File DADB.LIS) shows both WFMZ-TV and WWAC-TV with proposed directional antenna patterns on DTV Channel 46. While the pattern data within the WFMZ-TV NTSC directional antenna database is correct, the reference azimuth is not. The database for WFMZ's DTV allotment incorrectly shows a reference azimuth of 0 degrees True as does the FCC NTSC database (Field 128) for WFMZ-TV (File TVDB_DA1). However, the WFMZ-TV License shows (correctly) that the reference azimuth for the directional antenna is 160 degrees True.

The net result of this database error leads us to several conclusions.

1) The total currently served Grade "B" population of WFMZ-TV is underestimated in the 6th Report and Order since a significant heavily populated land area south of the WFMZ-TV

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[1] As pointed out in the Maranatha Petition, the co-channel DTV allotments are 25.7% shortspaced.

antenna site is not included within the incorrectly assumed WFMZ-TV NTSC Grade "B" coverage area. Figure 1 shows a plot of the Licensed WFMZ-TV Grade "B" along with a theoretical Grade "B" contour derived from WFMZ's directional antenna with the incorrect orientation used in preparing the 6th Report and Order. The actual 1990 population within WFMZ-TV's Grade "B" contour is 3,961,951 persons while the population derived using the FCC's incorrect antenna orientation and, therefore, incorrect location of WFMZ-TV's service area is 1,915,00 persons[2] or a net loss of 2,046,951 persons. This loss represents 57 percent of the present WFMZ-TV NTSC Grade "B" population compared to the DTV allocation.

2) The licensed WFMZ-TV directional antenna "nulls" are at 40 and 280 degrees True while the nulls assumed in the 6th Report and Order are at 120 and 240 degrees. The null from the 6th report and Order at 120 degrees is generally in the direction of WWAC-TV's proposed DTV allotment in Atlantic City which is on a bearing of 140 degrees from Allentown. As a result of the incorrect DTV antenna orientation, the predicted FCC(F50,90) DTV coverage contour of the proposed Channel 46 allotment in Allentown, PA is underestimated by approximately 6.7 Km at 140 degrees True in the direction of Atlantic City, New Jersey and by 6.1 Km at 160 degrees True (Figure 1).

Moreover, the antenna orientation error results in the same WFMZ-DTV FCC F(50,90) contour being overestimated to the northeast, north, and northwest of the WFMZ-TV antenna site and may have impacted the allotment of other DTV channels in these directions. Due to time limitations, we have not studied the possible impact on the allotment table in these directions

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[2] See Page B-63, Appendix B, 6th R & O.

caused by the incorrect assumptions for DTV Channel 46 at Allentown, Pennsylvania but it is likely that allotments to the northwest through northeast could have been impacted.

Table 1 shows a tabulation of the WFMZ-TV data as listed in the FCC TV NTSC station database (dated 961107) while Table 2 shows the WFMZ-TV directional antenna tabulation as listed in the NTSC directional antenna database. Figure 2 is a copy of Page 2 of the WFMZ-TV license, BLCT-931029KZ, showing the correct WFMZ-TV reference azimuth. As stated above, the reference azimuth is listed incorrectly in the FCC databases. The WFMZ-TV antenna is, in fact, installed with the reference at 160 degrees True.

Table 3 is a tabulation of the Channel 46 DTV allotment for Allentown, Pennsylvania from the FCC DTV database dated 970403. It can be seen that the errors in the NTSC databases have been carried forward to the DTV database.

As previously stated in the Maranatha Petition, the allotment of DTV channels 46 in both Allentown, Pennsylvania and Atlantic City, New Jersey has the following implications:

> ....."1) Both WFMZ-TV and WWAC-TV have existing NTSC channels OUTSIDE the "core spectrum" which prevents using the existing channels for DTV after the transition.
> 2) Both stations are part of the Philadelphia, PA television ADI.
> 3) As discussed below, the severe "short spacing" (DTV-DTV) between these two stations will cause unacceptable co-channel interference which can only be corrected by a yet unknown new channel allotment for either WWAC-TV or WFMZ-TV and

at considerable expense. Until channels are freed up at or near the end of the transition period, there is expected to be no opportunity for WFMZ-TV to eliminate the interference. This period could last upwards of 8 years or longer if the end of NTSC transmission is extended."....[3]

Also: ...."1) The WFMZ-TV-WWAC-TV UHF DTV-DTV short spacing is the most severe in the entire northeastern United States region. In Appendix E of the 6th R&O, the Commission specifies a minimum UHF DTV-DTV co-channel spacing of 196.2 km. The WFMZ-TV-WWAC-TV DTV-DTV spacing is 145.73 km or 50.5 km (25.7%) below the minimum."....[4]

4. THE MSTV PROPOSAL

In its proposal, MSTV points out that there are many instances of adjacent channel DTV-DTV potential interference issues in the Table as presented in the 6th R&0. The MSTV filing does not address either co-channel DTV-DTV short spacing nor does it discuss adjacent channel DTV-NTSC short spacing. In the case of WFMZ-TV, the issue with the FCC Table is co-channel short spacing probably caused by the incorrect WFMZ-TV directional antenna data as discussed below. We note that MSTV uses population information for WFMZ-TV[5] which

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[3] Maranatha Petition at Discussion, Page 4.

[4] Maranatha Petition at Discussion, Page 4.

indicates that the MSTV analysis with regard to WFMZ-TV is likely also in error due to the database errors. (See Paragraph 3,1) above).

MSTV proposes assigning DTV Channel 46 to WGTW-TV, NTSC Channel 48, Burlington, New Jersey, DTV Channel 62 to WFMZ-TV, NTSC Channel 69 (MBC) and DTV Channel 50 to WWAC, NTSC Channel 53, Atlantic City, New Jersey. All these stations are in the Philadelphia (PA) ADI, the fourth largest television market in the United States.

While the MSTV proposal eliminates the Channel 46 DTV-DTV co-channel short spacing, it does so by allotting an out-of-core DTV channel to WFMZ-TV, thereby requiring WFMZ-TV, an independent station with limited means, to shift to yet another undetermined DTV channel at the end of the transition period. At this time, the viability of such a future assignment is unclear and could even be detrimental to WFMZ-TV. Indeed, looking at the Philadelphia DMA and Harrisburg-York-Lancaster-Lebanon DMA, the MSTV proposal merely shifts channels around and does nothing to improve the situation for the reassignment of UHF channels 60-69 to Land Mobile.

For example, the FCC Table allots DTV channels 64 to NTSC Channel 6, the ABC O&O station and DTV channel 67 to NTSC Channel 10, the NBC O&O station. MSTV proposes to allot DTV Channel 32 to the ABC O&O and DTV Channel 54 to the NBC O&O and reassigns an out-of-core DTV Channel 62 to WFMZ-TV, Allentown, DTV Channel 68 to WTGI, NTSC Channel 61 in Wilmington, DE, and DTV Channel 64 to WGAL-TV, NTSC channel 8 in Lancaster, PA[6]

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[5] MSTV Proposed Table, Page 36.

[6] WGAL's Grade B impacts on the Philadelphia ADI and their FCC allotment is Channel 58.

Also in the Philadelphia ADI, MSTV proposes substituting DTV Channel 49 for DTV Channel 43 in Trenton, New Jersey. The FCC Table had DTV Channel 42 in Philadelphia, short spaced to DTV Channel 43 in Trenton. MSTV replaces the Philadelphia-Trenton DTV-DTV short spacing with a DTV-NTSC short spacing (Channels 48, WGTW-TV/DTV49). These cases show that, in this instance, the MSTV table substitutes DTV-DTV adjacent channel interference with DTV-NTSC adjacent channel interference. Thus, at least in the Philadelphia ADI, the MSTV proposal merely juggles allotments and does little to reduce interference per se, nor free up spectrum for Land Mobile in the 4th largest market. It also causes two independent stations, WFMZ-TV and WTGI-TV, to have to make a second DTV transition while two network owned and operated stations are relieved of that burden.

The real issue, as brought out by MSTV, is "spillover" from adjacent channel DTV signals caused when a DTV signal's out of channel components approach that of the proposed FCC emission mask. The solution may be to revisit the FCC mask with the idea of a tighter specification than originally proposed. Improving the out of band performance of the DTV transmitters will not only reduce interference to both adjacent channel DTV and NTSC stations, but also to land mobile operations in those markets where land mobile operations exist both within and adjacent to the UHF television band.

Some current NTSC UHF transmitters already utilize such filters and it is our understanding that the industry is developing even better designs. A 10-13 dB improvement in out of band performance of DTV transmitters will go along way to solve the problems of out of band emissions without wholesale reshuffling of the Table of DTV Allotments.

5. THE ALTV PROPOSAL

The ALTV proposal requests that all DTV stations be allowed to operate with up to 1000 kilowatts ERP, provided that no additional interference is caused. Their proposal suggests the use of high vertical downward antenna beam tilt to concentrate the signal downward in the areas out to the radio horizon[7]

While this proposal could eventually become viable, several issues are of concern and are not resolvable at the present time.

a: A review of current high power broadcast antenna technology indicates that currently available antenna designs, when subjected to excessive electrical beam tilt, produce a significant upper minor lobe which is then more or less directed at the radio horizon, effectively limiting the available power.[8] As beam tilt increases further, the suppression of the upper lobe continues to deteriorate, further limiting power. The use of mechanical beam tilt would require multiple antennas and would be difficult to implement.

b: Taken to the limit, a station with a great amount of beam tilt, and high power, will radiate a tremendous radiofrequency carrier level close-in to the station. It is conceivable that the levels of radiofrequency DTV signal will be sufficient to cause fundamental and receiver-induced intermodulation receiver overload thereby causing destructive interference in both DTV and

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[7] A technique currently employed by cellular and PCS carriers.

[8] For example, even with 1.0 degree beam tilt, an antenna in widespread use on UHF, the RCA TFU30J is only 9 dB down at 3.2 degrees above the main beam.

NTSC receivers[9]

In short, the ALTV proposal will require industry study and possible vertical pattern limitations to preclude fundamental overload and receiver-induced intermodulation distortion in both existing NTSC and DTV receivers near the DTV station and further, to insure pattern stability with temperature and sway to prevent occasional beyond the horizon interference. Consideration of this proposal without adequate study would be premature.

6. CONCLUSIONS

As a result of the recently discovered information presented herein, MBC believes that the allotment of co-channel DTV stations on Channel 46 in Allentown, Pennsylvania and Atlantic City, New Jersey is the product of the reference azimuth errors in the Commission's television databases. We believe that this error is very substantial and that the Commission should review the allotment of Channel 46 in Atlantic City, as has been requested by WWAC-TV in it's Petition for Reconsideration filed on June 13, 1997.[10]

MBC is ready to file an application for a construction permit to build a new DTV station on Channel 46 in Allentown, Pennsylvania and to complete construction and commence operation with new DTV facilities promptly upon grant of that application. However, the Channel 46 allotments for Allentown, Pennsylvania and Atlantic City, New Jersey, will, if allowed to stand,

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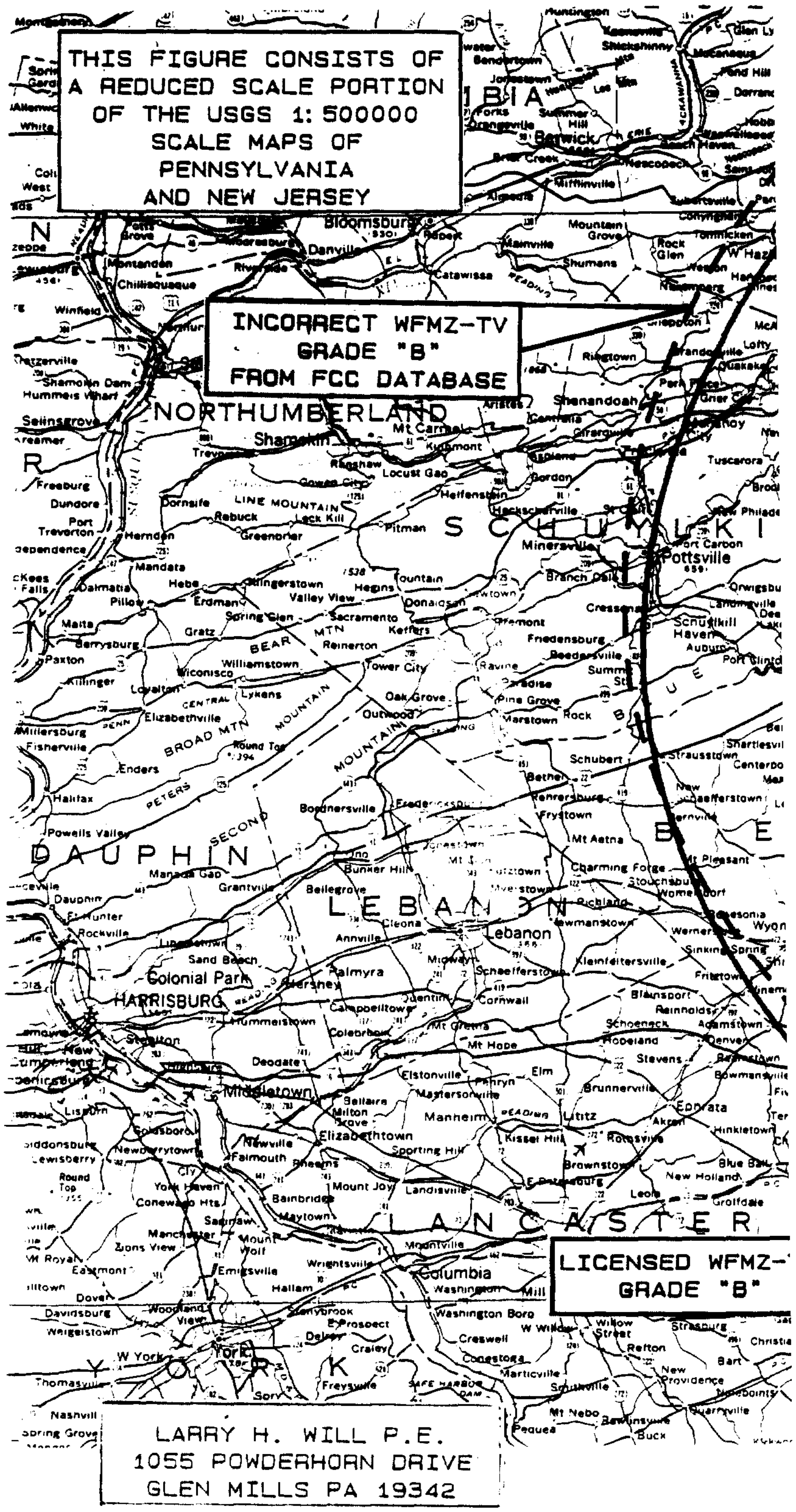
[9] The design of a modern high gain UHF antenna results in a Cosecant squared pattern which, at moderate beam tilt, causes an approximate constant field strength from about 1 mile to 7 miles from the antenna. By directing the main beam downward, that relationship is no longer true, and at locations close to the tower, the field intensities could well be sufficient to cause receiver overload, as is occasionally experienced now with multiple 5000 kilowatt NTSC stations in some markets.

[10] WWAC Petition for Reconsideration at III, D.

severely limit the ability of WFMZ-TV to implement DTV in a cost effective and spectrum effective manner and we respectfully request that the Commission review the allotments within the region with a goal of eliminating a co-channel allotment that is severely short spaced and unnecessarily restricts the ability of both stations to serve substantial population within the Philadelphia ADI.

KM.

MILES


THIS FIGURE CONSISTS OF A REDUCED SCALE PORTION OF THE USGS 1: 500000 SCALE MAPS OF PENNSYLVANIA AND NEW JERSEY
INCORRECT WFMZ-TV GRADE "B" FROM FCC DATABASE
LICENSED WFMZ-
GRADE "B"
NORTHUMBERLAND
SCHUYLKILL
DAUPHIN
LEBANON
LANCASTER
YORK
BERKS
LARRY H. WILL P.E.
1055 POWDERHORN DRIVE
GLEN MILLS PA 19342

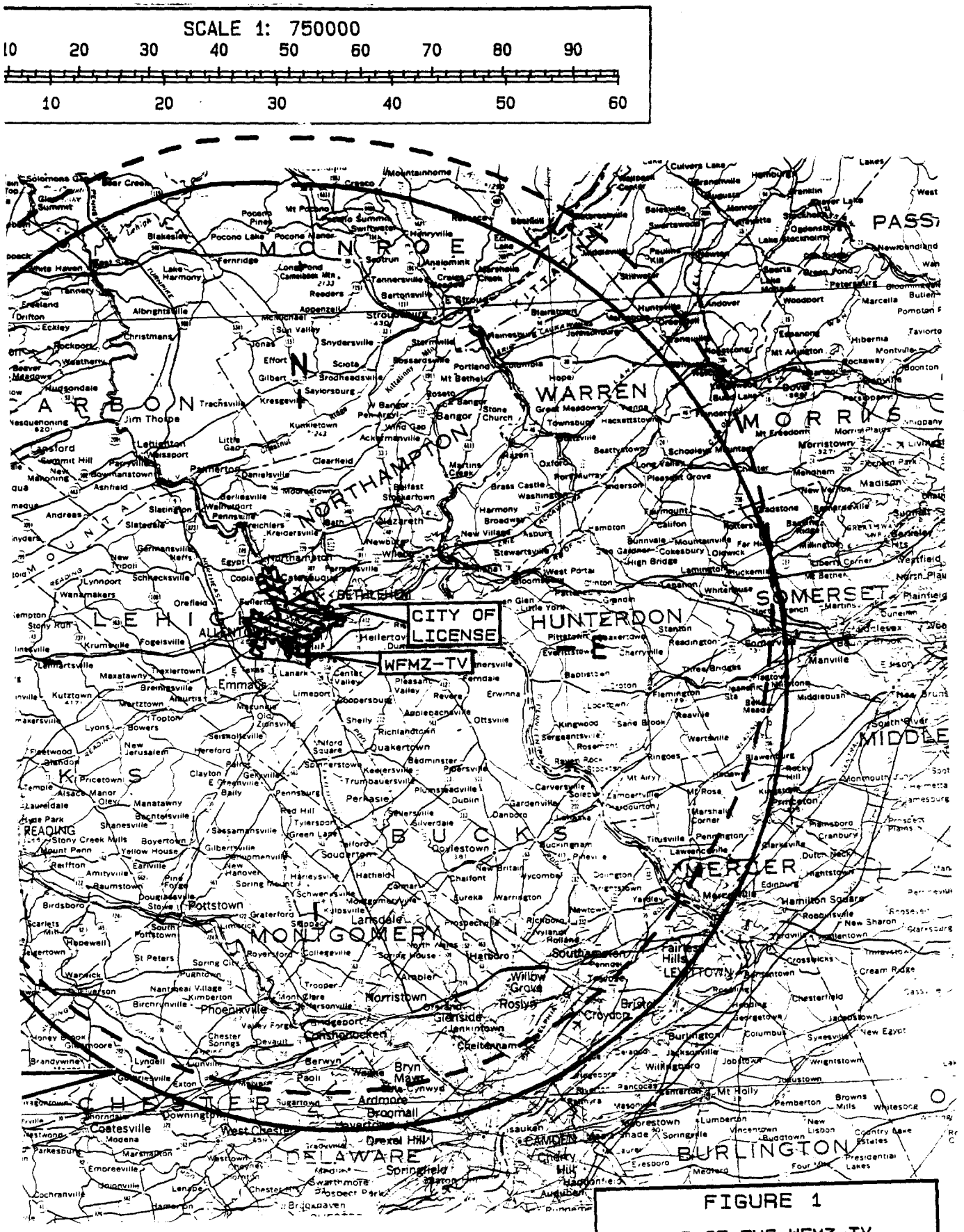


FIGURE 1

MAP OF THE WFMZ-TV
GRADE "B" COVERAGE CONTOURS

MARANATHA BROADCASTING CO
ALLENTOWN PA

Call sign: WFMZ-TV License No.: BLCT-931029KZ

Frequency (MHz): 800.0 - 806.0

Carrier Frequency (MHz): 801.25 Visual 805.75 Aural

Channel: 69

Hours of Operation: Unlimited

Main Studio Address:

PA-EAST ROCK ROAD, ALLENTOWN

Transmitter location (address or description):

EAST ROCK ROAD, ALLENTOWN, PA

Transmitter: Type accepted. See Sections 73.1660, 73.1665 and 73.1670 of the Commission's Rules.

Antenna type: (directional or non-directional): Directional

Desc: ANDREW ALP28M3

Beam Tilt: .75 degrees electrical

Major lobe directions (degrees true): 160.0

Antenna coordinates: North Latitude: 40 33 54.0
West Longitude: 75 26 26.0

	Visual
Transmitter output power . . . . . :	30.2 kW 14.8 dBk
Maximum effective radiated power (peak):	1070 kW 30.3 dBk
Height of radiation center above ground . . . . :	181.0 Meters
Height of radiation center above mean sea level :	464.0 Meters
Height of radiation center above average terrain:	313.0 Meters

Overall height of antenna structure above ground (including obstruction lighting, if any) . . . . . : 204.0 meters

FIGURE 2
WFMZ-TV LICENSE PAGE 2
MARANATHA BROADCASTING CO
ALLENTOWN PA

Table 1 WFMZ-TV data from TVDB_DA1

Channel: 69
Sequence #: 110172
Service Class: TV
Country: A
State: PA
City: ALLENTOWN
Lat: 403354.0
Long: 752626.0
Border: C
Call Sign: WFMZTV
File #: BLCT931029KZ
Status: LIC
Offset: Z
ERP: 1070
HAAT: 313
Polarization: H
Directional Antenna: Y
Beam Tilt: Y
Zone: 1
Not City of Alloc:
Ed/Comm: C
Last Update: 950427
Cutoff Date:
Docket #:
Name: MARANATHA BROADCASTING COMPANY, INC.
Comment:
Rad center AMSL: 464
Ref AZ: 0
Antenna Make: AND
Ant Type: ODD931029KZ
FCC Internal: 3681300255

Note that Ref AZ = 0 degrees.